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PATENT
03270-P0001A SPM/TMO

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Richard F. Creeth	
Serial No.: 09/785,573	Conf. No.: 4253	Filing Date: February 16, 2001
Title of Application:	Fully Capable Minimally Inflatable Object Model System For Multidimensional Applications	
Group Art Unit: 2172	Examiner: Chen, Chongshan	

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Transmittal of Appeal Brief

Dear Sir:

Having filed a Notice of Appeal to the Board of Patent Appeals and Interferences on April 4, 2005, Applicant hereby transmits its Appeal Brief.

1. **Appeal Brief.** Transmitted herewith, in triplicate, is the Appeal Brief with respect to the Notice of Appeal filed on April 4, 2005.

2. **Time To File.** The Notice of Appeal in the above-captioned matter was filed on April 4, 2005. This Appeal Brief is timely filed within two months thereafter.

Certificate of Mailing: I hereby certify that this correspondence is today being deposited with the U.S. Postal Service as first class mail in an envelope addressed to: Commissioner for Patents; P.O. Box 1450; Alexandria, VA 22313-1450.

June 6, 2005

Tamara L. Millikan

3. **Fee for Filing Appeal Brief.** Pursuant to 37 C.F.R. 41.20(b)(2), the fee for filing the Appeal Brief is $250.00. Applicant claims Small Entity status.

4. **Fee Payment.** Attached is a credit card authorization in the amount of $250.00. This is also a petition and a request to charge to Account No. 19-4516 for any additional extension and/or fee as may be required or credit for any excess fee paid.

Respectfully submitted,

June 6, 2005

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re The Application Of	
Richard F. Creeth	Examiner: Chen, Chongshan
Serial No.: 09/785,573	Group Art Unit: 2172
Filed: February 16, 2001	Confirmation No. 4253
For: Fully Capable Minimally Inflatable Object Model System For Multidimensional Applications	

Appeal Brief Under 37 C.F.R. §1.192

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Having filed herewith a Notice of Appeal from the final rejection of Claims 1-43, all of the claims currently pending, the final rejection being mailed on November 3, 2004, Appellant submits its Appeal Brief for the above-captioned application pursuant to 37 C.F.R. §1.192 in triplicate as follows.

Certificate of Mailing: I hereby certify that this correspondence is today being deposited with the U.S. Postal Service as first class mail in an envelope addressed to: : Mail Stop Appeal Brief – Patents; Commissioner for Patents; P.O. Box 1450; Alexandria, VA 22313-1450.

June 06, 2005

Tamara L. Millikan

Real Party in Interest

The real party in interest is the inventor, Richard F. Creeth.

Related Appeals and Interferences

There are no related appeals or interferences.

Status Of Claims

Claims 1-43 are currently pending, stand rejected and are the subject of the instant Appeal. A copy of each of these claims is attached hereto as Exhibit A.

Status Of Amendments

Subsequent to the Final Rejection being mailed on November 3, 2004, Appellant filed a Response To Final Official Action on January 6, 2005 in which reconsideration of the outstanding rejections was requested. No amendments were made therein.

Summary Of Invention

As described in the Specification, the claimed invention relates to an object model system for multidimensional applications which is comprehensive and intuitively structured, which is minimally inflatable and is expanded in memory only to the extent that a developer or user requests, which is capable of preserving application state without wasting large amounts of the web server's resources, and which provides shortcut methods to directly generate web content.

One particular aspect of the invention relates to the object model itself. The object model employed by the present invention includes Dataserver objects

34, each of which contains a collection of Cube objects 36 and Dimension objects 38. (see Figure 2 and Paragraph [0028]). However, the configuration of the Cube objects 36 and Dimension objects 38 of the present invention is advantageously different than in any object model of which Appellant is aware. More specifically, and as illustrated in Figure 3A, each Cube object 36 exposes various other objects that can be used to extract data information from OLAP database 14. This information includes CubeView objects 40 which represent saved views, which themselves may contain ViewValue objects 42 and Subset objects 44. Moreover, as illustrated in Figure 3B, each Dimension object 38 also exposes various other objects that can be used to extract data information from OLAP database 14. This information includes Subset objects 46, which represent saved subsets of Element objects 48, Hierarchy objects 50 and Element objects 52. Each of these objects contains a full set of properties and methods relevant to that object. (see Figures 3A and 3B and Paragraph [0030]).

Another particular aspect of the present invention relates to an adaptive instantiation and inflation technique which is advantageously different than all instantiation and inflation techniques of which Appellant is aware. More specifically, as illustrated in Figure 5, object model software 18 receives an indication at 58 that the object model 28 is being first accessed. At this point, object model software 18 instantiates and inflates objects which have been previously specified for up-front instantiation and inflation at 60. At 62, object model software 18 receives indications that objects are being accessed. Next, at 64, object model software 18 instantiates and inflates on demand any objects which were not already instantiated and inflated up-front. (see Figure 5 and Paragraph [0040]).

References Cited And Applied

(1) U.S. Published Patent Application No. US 2001/0054034 A1 to Arning et al. (hereinafter "Arning")

(2) U.S. Patent No. 6,360,229 to Blackman et al. (hereinafter "Blackman")

Grounds Of Rejection

Claims 1-10 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Arning.

Claims 11-43 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Arning in view of Blackman.

Issues Presented For Review

(1) Whether the Examiner's rejection under 35 U.S.C. § 102(e) is proper despite the fact that Arning does not disclose a dimension object which defines relationships between data in a cube object as required by Claims 1-10.

(2) Whether the Examiner's rejection under 35 U.S.C. § 103(a) is proper despite the fact that neither Arning nor Blackman discloses, teaches or suggests a two-stage, adaptive instantiation and inflation technique as required by Claims 11-43.

Grouping of Claims

The claims do not stand or fall together as the claims include materially different elements. For example, independent Claims 1 and 10 are directed to the aspect of the invention relating to the object model itself, while independent

Claims 11, 24 and 27 are directed to the aspect of the invention relating to the inventive adaptive instantiation and inflation technique.

Each dependent claim adds specific additional elements to the independent Claims. As such, the requirements of these claims must be considered because it is improper to fail to consider any limitation in the claims. In re Geerdes, 491 F.2d 1260, 1262, 180 U.S.P.Q. 789, the 791 (CCPA 1974) ("every limitation in the claim must be given effect rather than considering one in isolation from the others").

Argument

Arning is directed to technique for accessing a subject multi-dimensional database stored on a data store connected to the computer, in which an index is created for the subject multi-dimensional database. The index comprises another multi-dimensional database, and the subject multi-dimensional database is accessed using the index.

While Arning and the present invention both relate to multi-dimensional databases, the structure and operation of the systems are completely different. More specifically, Claims 1 and 10 of the present application (which are directed to the object model employed by the system of the present invention) both require, among other elements, (i) at least one cube object comprising at least one saved view of data; and (ii) at least one dimension object defining relationships between data in the at least one cube object.

Arning does not disclose, teach or suggest this. Rather, Arning discloses two separate multi-dimensional databases (index multi-dimensional database 134

and subject multi-dimensional database 136). Although not explicitly stated, it appears that each of these databases 134, 136 employs a standard object model, having stored thereon two separate sets of cube objects. There is no disclosure, teaching or suggestion that either of databases 134, 136 employs the novel object model of the present invention (i.e., one which includes at least one cube object comprising at least one saved view of data and at least one dimension object defining relationships between data in the at least one cube object).

The Examiner appears to recognize that Arning discloses two sets of cube objects. However, according to the Examiner, simply because "cubes generally have hierarchies or formula-based relationships of data within each dimension...", one of the sets of cube objects can be considered a set of dimension objects as required by the claims in question.

Applicant respectfully disagrees with the Examiner's assertion that one of the sets of cube objects disclosed in Arning can be considered a set of dimension objects. While it may be true that a cube object is a dimension**al** object (in that it is at least three dimensional), and that "cubes generally have hierarchies or formula-based relationships of data within each dimension", a cube object is not a "dimension object" as the term "dimension object" is understood by those skilled in the art. Rather, dimension objects are objects which define relationships between data in ***other*** objects (such as cube objects). In fact, Claims 1 and 10 were previously amended to require that the at least one dimension object define relationships between data in the at least one cube object. Applicant notes that the Examiner has not indicated any portion of Arning as disclosing, teaching or suggesting that the second set of cube objects (which the Examiner equates to the claimed dimension objects) defines relationships between data in the first set

of cube objects. Indeed, Applicant respectfully submits that no such disclosure, teaching or suggestion can be found in Arning. In fact, the portion of Arning cited by the Examiner, which states that "cubes generally have hierarchies or formula-based relationships of data within each dimension", specifically supports this contention. Cube objects, which have three dimensions, have hierarchies or formula-based relationships of data within each dimension (i.e., within each of the three dimensions of the cube). Cube objects do not define relationships between data in other objects -- this is what dimension objects do.

Moreover, even if the Examiner's contention that a cube object can be considered a dimension object were correct (which Applicant believes is not the case as described above) there would still be no disclosure, teaching or suggestion that the "dimension object" defines relationships between data in a cube object. Arning discloses that an object may define relationships between data within itself. Thus, if the Examiner considers an object to be a "cube object", it may define relationships between data within itself. If the Examiner considers an object to be a "dimension object", it may define relationships between data within itself. However, there is no disclosure, teaching or suggestion that one object defines relationships between data stored within another object. In the Advisory Action mailed February 1, 2005, the Examiner contends that Claims 1-10 do not recite this "other object" requirement. However, Appellant respectfully disagrees. Claims 1-10 require, among other elements, a cube object and a dimension object. These are two separate elements and therefore two separate objects. Claims 1-10 also require that the dimension object (i.e., one of the two separate objects) defines relationships between data in the cube object (i.e., another one of the two separate objects). Appellant respectfully submits that

Arning, with its disclosure only that an object may define relationships between data within itself, does not anticipate any of Claims 1-10.

In summary, Applicant respectfully submits that there is no disclosure, teaching or suggestion of any dimension objects (as the term is properly understood by those skilled in the art) in Arning, and there certainly is no disclosure, teaching or suggestion of any dimension objects which define relationships between data in at least one cube object.

Moreover, as discussed in detail in the present application, Claims 1-10 are directed to a novel object model, the purpose and benefit of which is to provide a much more intuitive technique from a programming perspective as compared to employing low-level API function calls. Arning, on the other hand is concerned with facilitating user (as opposed to programmer) interaction with the system. Arning is not at all concerned with providing an object model which is more intuitive from a programming perspective. In fact, Arning specifically discloses that "[t]he Index System uses standard application programming interfaces (APIs) provided with a multi-dimensional database system" (See Arning , page 7, paragraph [0092]). Thus, there is no motivation provided by Arning to use other than a "standard" object model and/or other than "standard" API function calls in connection with either of databases 134, 136. Applicant acknowledges that the goals of the present invention are not present in the claims, and does not rely on the goals in distinguishing the claims at issue from Arning. Applicant merely notes the differing goals as evidence that one skilled in the art would not have modified Arning in include the claimed elements which it does not disclose, since such missing elements would not help one achieve the goals of Arning. It is well settled that the mere fact that references can be combined or modified does not render

the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 U.S.P.Q.2d 1430 (Fed. Cir. 1990).

Claims 11-43 of the present application (which are directed to the adaptive instantiation and inflation technique employed by the system of the present invention) all require, among other elements, object model software: (i) which instantiates and inflates a predefined group of specified objects up-front a first time the database is accessed, and (ii) which instantiates and inflates nonspecified objects which are not included in the predefined group of specified objects on demand as each of the nonspecified objects is accessed. Thus, Claims 11, 24 and 27 of the present invention require a two-stage, adaptive instantiation and inflation.

As is recognized by the Examiner, Arning does not disclose, teach or suggest this. Arning does not even specifically address when instantiating and inflating of the databases is to occur. Applicants further respectfully submit that Blackman similarly does not disclose, teach or suggest the two-stage, adaptive instantiation and inflation technique as claimed.

Rather, Blackman discloses that "on demand" (i.e., either when the objects framework is loaded or when the application program first requests an applView object), an instantiation routine is commenced. The instantiation routine, which is shown in Figure 3 and described in detail at Column 9, lines 26-61, involves instantiating the DL/I™ object, then instantiating the requested applView object, then instantiating the dbdView objects, then instantiating the iterator object, and then entering a loop wherein each of the business objects (BOs) and data objects

(DOs) are instantiated/materialized. This technique is completely different than the novel technique claimed. More specifically, although Blackman discloses that there are numerous objects which are being instantiated, they are all instantiated when the objects framework is loaded or when the application program first requests an applView object. In Blackman, there is simply no disclosure, teaching or suggestion of a predefined group of specified objects which are instantiated up-front a first time the database is accessed, and objects which are not included in the predefined group of specified objects which are instantiated on demand as each of the nonspecified objects is accessed. Thus, although there are several objects which are being instantiated, they are instantiated in a single-stage process at either one of two times (i.e., either when the objects framework is loaded or when the application program first requests an applView object).

The Examiner cites several portions of Blackman as disclosing the claimed two-stage adaptive instantiation and inflation technique of the present invention. However, Applicant respectfully submits that it is only when these portions are taken out of context that they may appear to teach the claimed invention. For example, the Examiner cites Column 6, lines 34-50 as teaching that "the application program 106 dynamically loads previously-defined objects into the objects framework 108 to access the database 112 during execution time...the application program 106 first loads the objects framework 108 class library by instantiating the DL/I™ object...." However, the Examiner omits the further explanation that: "The objects loaded into the objects framework 108 include a DL/I™ object 200, one or more applView objects 202, one or more dbdView objects 204, one or more business objects (BOs) 206, one or more data objects (DOs) 208, and an iterator object 210." This is all of the objects that are to be instantiated, not "a predefined group of specified objects" which are instantiated in

a first step of a two-step process as required by the claims in question. Moreover, the examiner omits the explanation that after the application program 106 first loads the objects framework 108 class library by instantiating the DL/I™ object, the application program 106 also instantiates "one applView object 202, and one dbdView object 204" and that "the objects framework 108 then dynamically loads in the BO 206 and DO 208 class library requested by the application program 106 to create an iterator object 210, which then instantiates the BOs 206 and their corresponding DOs 208 during execution". This is a single stage process which may be commenced at either one of two times (i.e., either when the objects framework is loaded or when the application program first requests an applView object).

In the Advisory Action mailed February 1, 2005, the Examiner also cites column 5, lines 3-8, which states that "the objects framework instantiates IMS™ data objects upon demand from application programs and manages those objects from creation to deletion. Further, the objects framework uses these objects to dynamically construct DL/I™ calls from application program requests." However, again, when read in context (particularly in the context of the portion of Blackman which deal specifically with the instantiation routine, such as Figure 3 and Column 9, lines 26-61), this cited portion can be seen to mean that the objects framework instantiates all of the objects upon demand from application programs. This is not the claimed two-stage process. Furthermore, Appellant respectfully submits that the other portion of Blackman cited by the Examiner in the Advisory Action (column 8, line 65 - column 8, line 5) relates to the creation of new objects, not the instantiation and inflation of nonspecified objects on demand as they are accessed, as is required by all of Claims 11-43.

Applicant respectfully submits that when Blackman is taken as a whole, rather than simply taking selected bits and pieces thereof out of context, the claimed two-stage, adaptive instantiation and inflation technique of the present invention is not disclosed, taught or suggested in any way, nor is there any motivation provided in Blackman to modify the device disclosed therein to provide such a two-stage, adaptive instantiation and inflation technique.

Conclusion

Appellant has made a significant advance over the prior art by creating a system which is comprehensive and intuitively structured, which is minimally inflatable and is expanded in memory only to the extent that a developer or user requests, which is capable of preserving application state without wasting large amounts of the web server's resources, and which provides shortcut methods to directly generate web content. Accordingly, reconsideration and allowance of all pending claims is believed in order, and such action is earnestly solicited.

Respectfully submitted,

June 6, 2005

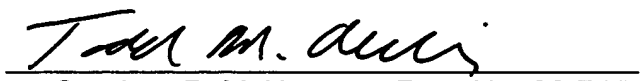

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EXHIBIT A - Pending Claims

1. (previously presented) An object model for manipulating multidimensional data comprising:

a dataspace comprising at least one dataserver;

at least one cube object stored on each of said at least one dataserver, each of said at least one cube object comprising at least one saved view of data; and

at least one dimension object defining relationships between data in the at least one cube object stored on each of said at least one dataserver, each of said at least one dimension object comprising at least one saved subset of elements.

2. (original) The object model of Claim 1 wherein said at least one dataserver comprises a plurality of dataservers.

3. (original) The object model of Claim 1 wherein said at least one dataserver comprises at least one dataserver for a database having multidimensional financial data stored thereon.

4. (original) The object model of Claim 1 wherein said at least one dataserver wherein said at least one dataserver comprises at least one dataserver for an OLAP database.

5. (original) The object model of Claim 1 wherein each of said at least one dimension object further comprises at least one saved element.

6. (original) The object model of Claim 1 wherein each of said at least one dimension object further comprises at least one saved hierarchy.

7. (original) The object model of Claim 1 wherein the at least one saved view of data comprises at least one saved value of data.

8. (original) The object model of Claim 1 wherein the at least one saved view of data comprises at least one saved subset of data.

9. (original) The object model of Claim 1 wherein said dataspace comprises an entry point into said object model.

10. (previously presented) An object model for manipulating multidimensional data comprising:

a dataspace comprising a plurality of dataservers for OLAP databases, said dataspace comprising an entry point into said object model;

at least one cube object stored on each of said dataservers, each of said at least one cube object comprising at least one saved view of data, each of the

at least one saved view of data comprising at least one saved value of data and at least one subset of data; and

at least one dimension object defining relationships between data in the at least one cube object stored on each of said dataservers, each of said at least one dimension object comprising at least one saved subset of elements, at least one element and at least one hierarchy.

11. (previously presented) A system for displaying data from a multidimensional database to a user, said system comprising:

a system computer;

a multidimensional database accessible by said computer, said multidimensional database having objects stored thereon; and

object model software executing on said system computer for instantiating and inflating a predefined group of specified objects up-front a first time said database is accessed, and for instantiating and inflating nonspecified objects which are not included in the predefined group of specified objects on demand as each of the nonspecified objects is accessed.

12. (original) The system of Claim 11 further comprising software executing on said computer for receiving from the user an indication of specified objects.

13. (original) The system of Claim 11 further comprising software executing on said computer for receiving from the user state information.

14. (original) The system of Claim 11 wherein the specified objects comprise collections of objects.

15. (original) The system of Claim 11 wherein the specified objects comprise specific properties of objects.

16. (original) The system of Claim 11 wherein said multidimensional database comprises a database having multidimensional financial data stored thereon.

17. (original) The system of Claim 11 wherein said multidimensional database comprises an OLAP database.

18. (original) The system of Claim 11 wherein said object model software employs an object model comprising:

a dataspace comprising at least one dataserver;

at least one cube object stored on each of said at least one dataserver, each of said at least one cube object comprising at least one saved view of data; and

at least one dimension object stored on each of said at least one dataserver, each of said at least one dimension object comprising at least one saved subset of elements.

19. (original) The system of Claim 18 wherein the specified objects are identified via said dataspace.

20. (original) The system of Claim 19 further comprising software executing on said computer for receiving from the user an indication of specified objects.

21. (original) The system of Claim 20 wherein the indication of specified objects comprises a structured string variable.

22. (original) The system of Claim 21 wherein the structured string variable comprises raw text separated by delimiters.

23. (original) The system of Claim 21 wherein the structured string variable comprises strings in an extensible markup language (XML) format.

24. (previously presented) A system for displaying data from a multidimensional OLAP database to a user, said system comprising:

a system computer;

a multidimensional database accessible by said computer, said multidimensional database having objects stored thereon;

object model software executing on said system computer for instantiating and inflating a predefined group of specified objects up-front a first time said database is accessed, and for instantiating and inflating nonspecified objects which are not included in the predefined group of specified objects on demand as each of the nonspecified objects is accessed; and

software executing on said computer for receiving from the user an indication of specified objects and state information.

25. (original) The system of Claim 24 wherein the specified objects comprise collections of objects.

26. (original) The system of Claim 24 wherein the specified objects comprise specific properties of objects.

27. (previously presented) A system for displaying data from a multidimensional database to a user, said system comprising:

a system computer;

a multidimensional database accessible by said computer, said multidimensional database having objects stored thereon; and

object model software executing on said system computer for instantiating and inflating a predefined group of specified objects up-front a first time said database is accessed, and for instantiating and inflating nonspecified objects which are not included in the predefined group of specified objects on demand as each of the nonspecified objects is accessed, said object model software employs an object model comprising:

a dataspace comprising at least one dataserver;

at least one cube object stored on each of said at least one dataserver, each of said at least one cube object comprising at least one saved view of data; and

at least one dimension object stored on each of said at least one dataserver, each of said at least one dimension object comprising at least one saved subset of elements.

28. (original) The system of Claim 27 wherein said multidimensional database comprises a database having multidimensional financial data stored thereon.

29. (original) The system of Claim 27 wherein said multidimensional database comprises an OLAP database.

30. (original) The system of Claim 27 wherein said at least one dataserver comprises a plurality of dataservers.

31. (original) The system of Claim 27 wherein each of said at least one dimension object further comprises at least one saved element.

32. (original) The system of Claim 27 wherein each of said at least one dimension object further comprises at least one saved hierarchy.

33. (original) The system of Claim 27 wherein the at least one saved view of data comprises at least one saved value of data.

34. (original) The system of Claim 27 wherein the at least one saved view of data comprises at least one saved subset of data.

35. (original) The system of Claim 27 wherein said dataspace comprises an entry point into said object model.

36. (original) The system of Claim 27 further comprising software executing on said computer for receiving from the user state information.

37. (original) The system of Claim 27 wherein the specified objects comprise collections of objects.

38. (original) The system of Claim 27 wherein the specified objects comprise specific properties of objects.

39. (original) The system of Claim 27 wherein the specified objects are identified via said dataspace.

40. (original) The system of Claim 39 further comprising software executing on said computer for receiving from the user an indication of specified objects.

41. (original) The system of Claim 40 wherein the indication of specified objects comprises a structured string variable.

42. (original) The system of Claim 41 wherein the structured string variable comprises raw text separated by delimiters.

43. (original) The system of Claim 41 wherein the structured string variable comprises strings in an extensible markup language (XML) format.